

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

MEWBURN ELLIS
York House
23 Kingsway
London WC2B 6HP
GRANDE BRETAGNE

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing
(day/month/year)

03.08.2004

Applicant's or agent's file reference
RJW/5969365

IMPORTANT NOTIFICATION

International application No.
PCT/GB 02/03557

International filing date (day/month/year)
01.08.2002

Priority date (day/month/year)
01.08.2002

Applicant
FISCO TOOLS LIMITED et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
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Authorized Officer

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference RJW/5969365	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA416)	
International application No. PCT/GB 02/03557	International filing date (day/month/year) 01.08.2002	Priority date (day/month/year) 01.08.2002
International Patent Classification (IPC) or both national classification and IPC G01B3/10		
Applicant FISCO TOOLS LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 11 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26.02.2004	Date of completion of this report 03.08.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Beyfuß, M Telephone No. +49 89 2399-2725 <div style="text-align: right;">  </div>

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 02/03557**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

Description, Pages

1-22 as originally filed

Claims, Numbers

1-22 received on 12.07.2004 with letter of 09.07.2004

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☒ the claims, Nos.: 23
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 02/03557

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

see separate sheet

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

- ☐ restricted the claims.
☐ paid additional fees.
☐ paid additional fees under protest.
☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
☐ not complied with for the following reasons:

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
☐ the parts relating to claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13, 17-22
	No: Claims	14-16
Inventive step (IS)	Yes: Claims	1-13, 21, 22
	No: Claims	17-20
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 02/03557

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB02/03557

Reference is made to the following documents:

D1: US-A-3415461
D2: US-A-3437281
D3: US-A-3114515
D4: US-A-3443316
D5: US-A-4443944
D6: US-B1-6182916
D7: US-A-1465067
D8: US-A-5137248

Re Item I

Basis of the report

There is no basis found in the original application for the “rigid stop means” and the “rigid cooperating means” used in **claims 13 and 14**. The newly filed claims 13 and 14 are thus contrary to Article 34(2)(b) PCT. According to Rule 70.2(c) PCT the following report has been established as if the newly introduced term “**rigid**” is **not included** in the respective claims.

Re Item IV

Lack of unity of invention

According to the following statement in item V the application contains two sub-sets of claims are considered as inventions:

1. Claims 1-13: A tape measure having a spooled measuring blade mounted via mounting means within the casing and being rotatable about a rotation axis, and resilient means interposed in the mounting means between the spooled blade and the case, wherein the resilient means permits but urges against displacement of the spooled blade with respect to the case in a direction radial to the rotation axis.
2. Claims 21 and 22: A method of forming a tape measure having a casing enclosing a spooled measuring blade, comprising moulding a casing section by injection moulding of a first material in a mould tool, and injection moulding a second, resilient material into at least one predetermined location in the mould tool so that the resilient material is

moulded into a selected location of the casing section.

The first invention contributes over the disclosure of the respective closest prior art (D1-D3, see item V) in that the resilient means act in a direction radial to the rotation axis. The second invention contributes over the respective closest prior art (D6, see item V) in that a casing section is moulded by injection moulding of a first material in a mould tool, and by injection moulding a second, resilient material into at least one predetermined location in the mould tool so that the resilient material is moulded into a selected location of the casing section.

The technical problems to be solved by these inventions are completely different and independent from each other: whereas invention 1 provides impact shock protection especially in radial direction invention 2 makes the resilient means secure and avoids the need for an overjacket. A common inventive concept is thus not seen and the requirements of Rule 13 PCT are not met.

Regardless of the above objections the following report has been established for all claims 1-22 of the present application.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability

I. CLAIMS 1-13

I/1. Prior Art

For claims 1-13 the documents D1-D3 are equally seen as closest prior art. **D1** (Fig. 2; col. 2, l. 21-36) discloses a tape measure having a spooled measuring blade mounted in mounting means (drum 15 and stem 21) within a casing. The blade is rotatable about stem 21. A spring 22 is fixed by screw 25 to stem 21 and interposed between the spooled blade and the inner wall of the case. The spring serves as a brake against displacement of the drum and a such "permits but urges against displacement of the blade with respect to the case". **D2** (Fig. 4; col. 2, l. 18-57) also discloses a tape measure with a blade spooled on a drum. In the embodiment of Fig. 6 a spring 16 which is interposed in the mounting means is

used for braking (the spring is rubbing on the casing wall). In **D3** (Fig. 1; col 2, l. 69-col. 3, l. 4) a spring 31 which is also interposed in the mounting means is used for braking the movement of the drum.

I/2. Novelty (Article 33(2) PCT)

The subject matter of claim 1 differs therefrom in that the resilient means operates in a direction radial to the rotation axis. The subject matter of claim 1 is thus new.

I/3. Inventive Step (Article 33(3) PCT)

The tape measure of claim 1 provides shock impact protection especially in radial direction. The available prior art does neither address this problem nor suggest the solution defined in claim 1. The subject matter of claim 1 is thus based on an inventive activity.

I/4. The dependent claims 2-13 only add particular features to the subject matter of independent claim 1. The subject matter of claims 2-13 is thus also new and based on an inventive activity.

II. CLAIMS 14-18

II/1. Prior Art

For claims 14-18 the documents D1-D5 are seen as closest prior art.

II/2. Novelty (Article 33(2) PCT)

II/2.1 The subject matter of independent claim 14 is not new:

As already pointed out (see item I/1.) **D1-D3** disclose tape measures having rotatable spooling drums in casings. Moreover, in D1-D3 springs are used for braking the movement of the drums and the blades. These brakes are based on friction between the drum and the casing and they are thus suited to stop the movement of the drum ("stop means"). Moreover, they are located to abut against cooperating means on the drum as can be seen from the above cited

embodiments of D1-D3. It is noted that also a spring mounted on the drum abuts against respective cooperating means on the drum. Additionally to these embodiments, D2 shows another embodiment (Fig. 5) wherein spring 16 abuts the sidewall of the spooling device. Moreover, in D4 (Figs. 1, 12; col. 3, l. 52-col. 4, l. 69) the drum is stopped by a pressure plate 35 and a flange 33 which serve to squeeze the blade therebetween. Finally, D5 (Figs. 1-3; col. 2, l. 33-col. 3, l. 60) uses a ratchet mechanism. Stop means can be seen in the ratchet blocks on the inner side of the casing. They are located to abut against cooperating means on the drum (arm 24 is mounted on the drum). In any of these documents D1-D5 the stop means are "located to abut against cooperating means on the spooling device" also "on displacement of the spooling device with respect to the case in a direction radial to the rotation axis", ie. when displacement occurs in said radial direction.

II/2.2 The subject matter of claims 15 and 16 is not new, either: The subject matter of claim 15 is so unclear that no difference to D1-D5 can be established (see "REMARKS"/1.). Moreover, the ratchet mechanism of D5 discloses the particular features of claim 16.

II/2.3 The particular features of the claims 17 and 18 have not been found in D1-D5. The subject matter of claims 17 and 18 is thus new.

II/3. Inventive Step (Article 33(3) PCT)

The particular features of the claims 17 and 18 do not contribute to an inventive activity:

Claim 17: D5 discloses a ratchet mechanism having stop elements on the casing surface. Starting from this embodiment it is obvious to provide the ratchet stop elements arranged in the form of an annular ring. The ring shape reflects the rotational movement of the drum to be stopped.

Claim 18: Providing resilient means in the casing of a tape measure which are formed by moulding-in is rendered obvious by the documents D6/D7 and D8, see also items III/2 and III/3.

III. CLAIMS 19 and 20

III/1. Prior Art

For claims 19 and 20 the documents D6 and D7 are seen as closest prior art. D6 (Fig. 2; col. 2, l. 31-52) shows a tape measure having a spooled measuring blade 13 in a case. D6 discloses to protect the case with respect to impact by a material 20 on the outside of the case. According to D6 the material 20 is used to cover the case partially, eg. at the corners. The latter is a selection of locations according to the vulnerability to impact. Moreover, the resilient material is used to prevent slipping of the tape measure. D7 (Figs. 1-3; p. 2, l. 11-41) discloses a tape measure having a part 22 at the outer surface of the housing. The part is located at one corner and at the tape mouth. The part is flexible and it serves to absorb impact of the blade so that damage is avoided.

III/2 Novelty (Article 33(2) PCT)

The subject matter of independent claims 19 and 20 differs therefrom in that the resilient means are formed by moulding-in resilient material into corresponding recesses formed in the casing. The subject matter of claims 19-20 is thus new.

III/3. Inventive Step (Article 33(3) PCT)

III/3.1 The subject matter of independent claim 19 is not based on an inventive step: D6 discloses to coat the corners of a casing with resilient material in order to prevent the casing from slipping away. For exactly the same purpose (preventing slip away of a casing) D8 proposes (col. 1, l. 22-25) to mould-in resilient material at the corners of the casing through respective recesses formed in the casing (see Figs. 1, 2; col. 3, l. 1-56). It is thus obvious to a skilled person to apply this well-known technique of D8 to the casing of D6 in an analogous way. An inventive step is not seen therein.

III/3.2 The particular features of claim 20 do not contribute to an inventive activity, because these features are known from D6 and D7 (D6 and D7 select the corners; D7 selects also the mouth).

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB02/03557

IV. CLAIMS 21 and 22

IV/1. Prior Art

For claims 21 and 22 the document D6 is seen as closest prior art.

IV/2. Novelty (Article 33(2) PCT)

The subject matter of independent claim 21 differs from the manufacturing method of D6 in that a casing section is moulded by injection moulding in a mould tool and in that an injection of the resilient material is made in the same mould tool. The subject matter of claim 21 is thus new.

IV/3. Inventive Step (Article 33(3) PCT)

These features make the resilient means secure and avoid the need for an overjacket. There was no suggestion found to apply the particular method defined in claim 21 for manufacturing resilient protection elements in a casing of a tape measure. Although D8 renders obvious to mould-in resilient material in a casing, the method of claim 21 involves a further step of moulding also the casing section and using the same mould tool for injecting the resilient material. An inventive step is thus seen.

IV/4. Although the restriction of claim 22 is not very clearly defined the claim adds only further features to the subject matter of independent claim 21. The subject matter of claim 22 is thus also new and based on an inventive activity.

5. Industrial Applicability (Article 33(4) PCT)

The subject matter of claims 1-22 are industrially applicable (for tape measures).

REMARKS

1. The tape measure of claim 15 is only defined by the result to be achieved. Claim 15 fails to define the technical features of the tape measure which enables to

achieve this result.

2. There are some inconsistencies between the claims and the description:

Claim 1 defines that resilient means are "interposed in the mounting means between the spooled blade and the case". No embodiment is found wherein the resilient means are arranged in this way. Resilient means can be found between the sidewalls of the spooling drums and around the axis for holding the spooling drum. Moreover, the description mentions that the method of claim 21 is advantageously applied to provide resilient means according to the first aspect (which are the embodiments of Figs. 2-6). It is obscure how a method of producing casings is linked to drum sidewalls.

3. It seems that the "resilient means" mentioned in claim 18 (which depends now on claim 1) is different from the "resilient means" used in claim 1. Accordingly, different terms would be necessary to distinguish between these means.
4. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
5. The description is not in line with the amended claims (Rule 5.1(a)(iii) PCT).
6. Contrary to Rule 5.1(a)(ii) PCT, the relevant background art is not cited in the description.

CLAIMS

1. A tape measure having:

5 a spooled measuring blade mounted via mounting means within a casing, the spooled measuring blade being rotatable with respect to the case about a rotation axis; and resilient means interposed in the mounting means between the spooled blade and the case, wherein the resilient
10 means permits but urges against displacement of the spooled blade with respect to the case in a direction radial to the rotation axis.

15 2. A tape measure according to claim 1 wherein the spooled blade is rotatable with respect to the resilient means.

20 3. A tape measure according to claim 2 wherein the resilient means is interposed between the casing and an axle element which is fixed with respect to the casing.

4. A tape measure according to claim 2 or claim 3 wherein the resilient member is a bush or cup.

25 5. A tape measure according to claim 1 wherein the mounting means includes a spooling device and the resilient means is rotatable with the spooling device with respect to the casing.

6. A tape measure according to claim 5 wherein the spooling device has a side member which acts to guide the blade during spooling and unspooling, the resilient member being formed in the side member.

7. A tape measure according to claim 5 or claim 6 wherein the spooled blade is located on an outer portion of the spooling device.

8. A tape measure according to claim 7 wherein the resilient member is formed in the spooling device and is located between the outer portion of the spooling device and a bearing surface of the spooling device.

9. A tape measure according to claim 8 wherein the resilient member is a connecting element which connects the outer portion of the spooling device to the bearing surface of the spooling device, the connecting element being shaped so that at least a part has a transverse component of force acting to bend it under a force acting radially between the bearing surface and the outer portion.

10. A tape measure according to claim 9 wherein the resilient member is a series of connecting elements disposed around the bearing surface.

11. A tape measure according to claim 10 wherein the connecting elements form a spiral shape from the outer portion towards the bearing surface or are selected from S-shape, Z-shape, W-shape, V-shape, U-shape, C-shape, L-shape, dog-leg shape, concertina-shape, or combinations thereof.

12. A tape measure according to claim 10 or claim 11 wherein gaps between adjacent spokes/struts are filled with a resilient or shock-absorbing material.

13. A tape measure according to any one of claims 1 to 12 having a spooling device on which the blade is mounted and rigid stop means located to abut against rigid cooperating means on the spooling device on displacement of the spooling device with respect to the case in a direction radial to the rotation axis.

14. A tape measure having a spooled measuring blade mounted via a spooling device within a case, the spooled measuring blade and the spooling device being rotatable with respect to the case about a rotation axis; and rigid stop means located to abut against rigid cooperating means on the spooling device on displacement of the spooling device with respect to the case in a direction radial to the rotation axis.

15. A tape measure according to claim 13 or claim 14 wherein the stop means is located so that displacement of the spooling device with respect to the casing is stopped or urged against at a displacement less than that required to cause failure or damage to an axle element about which the spooling device is rotatable.

16. A tape measure according to any one of claims 13 to 15 wherein the stop means is a step, protrusion or recess formed in the inner surface of a side wall of the casing and the corresponding cooperating means on the spooling device is a step, recess or protrusion, respectively.

17. A tape measure according to claim 16 wherein the stop member is an annular stop ring connected to or formed in the casing and extending adjacent to the spooling device.

18. A tape measure according to any one of claims 1 to 17 having resilient means selectively located at the outer surface of the case, the location or locations of the resilient means being selected according to the vulnerability to impact of the location or locations, the resilient means being formed by moulding-in resilient material into corresponding recesses formed in the casing.

19. A tape measure having a spooled measuring blade mounted within a case, and resilient means selectively located at the outer surface of the case, the location or locations of the resilient means being selected according to the vulnerability to impact of the location or locations, the resilient means being formed by moulding-in resilient material into corresponding recesses formed in the casing.

20. A tape measure according to claim 18 or claim 19 wherein the selected locations are at least one of a tape mouth, a switch and the corners of the case.

21. A method of forming a tape measure having a casing enclosing a spooled measuring blade, the method including the steps of:
moulding a casing section by injection moulding of a first material in a mould tool; and
injection moulding a second, resilient material into at least one predetermined location in the mould tool so that the resilient material is moulded into a selected location of the casing section.

22. A method according to claim 21 used to make a tape measure according to any one of claims 1-20.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference RJW/5969365	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 0203557	International filing date (day/month/year) 01.08.2002	Priority date (day/month/year) 01.08.2002
International Patent Classification (IPC) or both national classification and IPC G01B3/10		
Applicant FISCO TOOLS LIMITED et al.		

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These annexes consist of a total of 5 sheets.

**CORRECTED
VERSION**

3. This report contains indications relating to the following items:

I	<input checked="" type="checkbox"/>	Basis of the opinion
II	<input type="checkbox"/>	Priority
III	<input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input checked="" type="checkbox"/>	Lack of unity of invention
V	<input checked="" type="checkbox"/>	Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/>	Certain documents cited
VII	<input type="checkbox"/>	Certain defects in the international application
VIII	<input type="checkbox"/>	Certain observations on the international application

Date of submission of the demand 26.02.2004	Date of completion of this report 24.08.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Beyfuß, M. Telephone No. +49 89 2399-2725 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 02/03557**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

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1-22 as originally filed

Claims, Numbers

1-22 received on 12.07.2004 with letter of 09.07.2004

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
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3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
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☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
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4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☒ the claims, Nos.: 23
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 02/03557**

5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
- (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

see separate sheet

6. Additional observations, if necessary:

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:
- ☐ restricted the claims.
 - ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☐ neither restricted nor paid additional fees.
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with.
 - ☐ not complied with for the following reasons:
4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:
- ☒ all parts.
 - ☐ the parts relating to claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13, 17-22
	No: Claims	14-16
Inventive step (IS)	Yes: Claims	1-13, 21, 22
	No: Claims	17-20
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 02/03557

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB02/03557

Reference is made to the following documents:

D1: US-A-3415461
D2: US-A-3437281
D3: US-A-3114515
D4: US-A-3443316
D5: US-A-4443944
D6: US-B1-6182916
D7: GB-A-1465067
D8: US-A-5137248

D7 was erroneously listed as "US-A-1465067" in the international search report.
The above number is now correct. A copy of D7 is annexed to this report.

Re Item I

Basis of the report

There is no basis found in the original application for the "rigid stop means" and the "rigid cooperating means" used in **claims 13 and 14**. The newly filed claims 13 and 14 are thus contrary to Article 34(2)(b) PCT. According to Rule 70.2(c) PCT the following report has been established as if the newly introduced term "**rigid**" is **not included** in the respective claims.

Re Item IV

Lack of unity of invention

According to the following statement in item V the application contains two sub-sets of claims are considered as inventions:

1. Claims 1-13: A tape measure having a spooled measuring blade mounted via mounting means within the casing and being rotatable about a rotation axis, and resilient means interposed in the mounting means between the spooled blade and the case, wherein the resilient means permits but urges against displacement of the spooled blade with respect to the case in a direction radial to the rotation axis.
2. Claims 21 and 22: A method of forming a tape measure having a casing enclosing a

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spooled measuring blade, comprising moulding a casing section by injection moulding of a first material in a mould tool, and injection moulding a second, resilient material into at least one predetermined location in the mould tool so that the resilient material is moulded into a selected location of the casing section.

The first invention contributes over the disclosure of the respective closest prior art (D1-D3, see item V) in that the resilient means act in a direction radial to the rotation axis. The second invention contributes over the respective closest prior art (D6, see item V) in that a casing section is moulded by injection moulding of a first material in a mould tool, and by injection moulding a second, resilient material into at least one predetermined location in the mould tool so that the resilient material is moulded into a selected location of the casing section.

The technical problems to be solved by these inventions are completely different and independent from each other: whereas invention 1 provides impact shock protection especially in radial direction invention 2 makes the resilient means secure and avoids the need for an overjacket. A common inventive concept is thus not seen and the requirements of Rule 13 PCT are not met.

Regardless of the above objections the following report has been established for all claims 1-22 of the present application.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability

I. CLAIMS 1-13

I/1. Prior Art

For claims 1-13 the documents D1-D3 are equally seen as closest prior art. D1 (Fig. 2; col. 2, l. 21-36) discloses a tape measure having a spooled measuring blade mounted in mounting means (drum 15 and stem 21) within a casing. The blade is rotatable about stem 21. A spring 22 is fixed by screw 25 to stem 21 and interposed between the spooled blade and the inner wall of the case. The spring serves as a brake against displacement of the drum and a such "permits but urges

against displacement of the blade with respect to the case". **D2** (Fig. 4; col. 2, l. 18-57) also discloses a tape measure with a blade spooled on a drum. In the embodiment of Fig. 6 a spring 16 which is interposed in the mounting means is used for braking (the spring is rubbing on the casing wall). In **D3** (Fig. 1; col 2, l. 69-col. 3, l. 4) a spring 31 which is also interposed in the mounting means is used for braking the movement of the drum.

I/2. Novelty (Article 33(2) PCT)

The subject matter of claim 1 differs therefrom in that the resilient means operates in a direction radial to the rotation axis. The subject matter of claim 1 is thus new.

I/3. Inventive Step (Article 33(3) PCT)

The tape measure of claim 1 provides shock impact protection especially in radial direction. The available prior art does neither address this problem nor suggest the solution defined in claim 1. The subject matter of claim 1 is thus based on an inventive activity.

I/4. The dependent claims 2-13 only add particular features to the subject matter of independent claim 1. The subject matter of claims 2-13 is thus also new and based on an inventive activity.

II. CLAIMS 14-18

II/1. Prior Art

For claims 14-18 the documents D1-D5 are seen as closest prior art.

II/2. Novelty (Article 33(2) PCT)

II/2.1 The subject matter of independent claim 14 is not new:

As already pointed out (see item I/1.) **D1-D3** disclose tape measures having rotatable spooling drums in casings. Moreover, in D1-D3 springs are used for braking the movement of the drums and the blades. These brakes are based on

friction between the drum and the casing and they are thus suited to stop the movement of the drum ("stop means"). Moreover, they are located to abut against cooperating means on the drum as can be seen from the above cited embodiments of D1-D3. It is noted that also a spring mounted on the drum abuts against respective cooperating means on the drum. Additionally to these embodiments, D2 shows another embodiment (Fig. 5) wherein spring 16 abuts the sidewall of the spooling device. Moreover, in D4 (Figs. 1, 12; col. 3, l. 52-col. 4, l. 69) the drum is stopped by a pressure plate 35 and a flange 33 which serve to squeeze the blade therebetween. Finally, D5 (Figs. 1-3; col. 2, l. 33-col. 3, l. 60) uses a ratchet mechanism. Stop means can be seen in the ratchet blocks on the inner side of the casing. They are located to abut against cooperating means on the drum (arm 24 is mounted on the drum). In any of these documents D1-D5 the stop means are "located to abut against cooperating means on the spooling device" also "on displacement of the spooling device with respect to the case in a direction radial to the rotation axis", ie. when displacement occurs in said radial direction.

II/2.2 The subject matter of claims 15 and 16 is not new, either: The subject matter of claim 15 is so unclear that no difference to D1-D5 can be established (see "REMARKS"/1.). Moreover, the ratchet mechanism of D5 discloses the particular features of claim 16.

II/2.3 The particular features of the claims 17 and 18 have not been found in D1-D5. The subject matter of claims 17 and 18 is thus new.

II/3. Inventive Step (Article 33(3) PCT)

The particular features of the claims 17 and 18 do not contribute to an inventive activity:

Claim 17: D5 discloses a ratchet mechanism having stop elements on the casing surface. Starting from this embodiment it is obvious to provide the ratchet stop elements arranged in the form of an annular ring. The ring shape reflects the rotational movement of the drum to be stopped.

Claim 18: Providing resilient means in the casing of a tape measure which are

formed by moulding-in is rendered obvious by the documents D6/D7 and D8, see also items III/2 and III/3.

III. CLAIMS 19 and 20

III/1. Prior Art

For claims 19 and 20 the documents D6 and D7 are seen as closest prior art. **D6** (Fig. 2; col. 2, l. 31-52) shows a tape measure having a spooled measuring blade 13 in a case. D6 discloses to protect the case with respect to impact by a material 20 on the outside of the case. According to D6 the material 20 is used to cover the case partially, eg. at the corners. The latter is a selection of locations according to the vulnerability to impact. Moreover, the resilient material is used to prevent slipping of the tape measure. **D7** (Figs. 1-3; p. 2, l. 11-41) discloses a tape measure having a part 22 at the outer surface of the housing. The part is located at one corner and at the tape mouth. The part is flexible and it serves to absorb impact of the blade so that damage is avoided.

III/2 Novelty (Article 33(2) PCT)

The subject matter of independent claims 19 and 20 differs therefrom in that the resilient means are formed by moulding-in resilient material into corresponding recesses formed in the casing. The subject matter of claims 19-20 is thus new.

III/3. Inventive Step (Article 33(3) PCT)

III/3.1 The subject matter of independent claim 19 is not based on an inventive step:

D6 discloses to coat the corners of a casing with resilient material in order to prevent the casing from slipping away. For exactly the same purpose (preventing slip away of a casing) D8 proposes (col. 1, l. 22-25) to mould-in resilient material at the corners of the casing through respective recesses formed in the casing (see Figs. 1, 2; col. 3, l. 1-56). It is thus obvious to a skilled person to apply this well-known technique of D8 to the casing of D6 in an analogous way. An inventive step is not seen therein.

III/3.2 The particular features of claim 20 do not contribute to an inventive activity,

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because these features are known from D6 and D7 (D6 and D7 select the corners; D7 selects also the mouth).

IV. CLAIMS 21 and 22

IV/1. Prior Art

For claims 21 and 22 the document D6 is seen as closest prior art.

IV/2. Novelty (Article 33(2) PCT)

The subject matter of independent claim 21 differs from the manufacturing method of D6 in that a casing section is moulded by injection moulding in a mould tool and in that an injection of the resilient material is made in the same mould tool. The subject matter of claim 21 is thus new.

IV/3. Inventive Step (Article 33(3) PCT)

These features make the resilient means secure and avoid the need for an overjacket. There was no suggestion found to apply the particular method defined in claim 21 for manufacturing resilient protection elements in a casing of a tape measure. Although D8 renders obvious to mould-in resilient material in a casing, the method of claim 21 involves a further step of moulding also the casing section and using the same mould tool for injecting the resilient material. An inventive step is thus seen.

IV/4. Although the restriction of claim 22 is not very clearly defined the claim adds only further features to the subject matter of independent claim 21. The subject matter of claim 22 is thus also new and based on an inventive activity.

5. Industrial Applicability (Article 33(4) PCT)

The subject matter of claims 1-22 are industrially applicable (for tape measures).

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REMARKS

1. The tape measure of claim 15 is only defined by the result to be achieved. Claim 15 fails to define the technical features of the tape measure which enables to achieve this result.

2. There are some inconsistencies between the claims and the description:

Claim 1 defines that resilient means are "interposed in the mounting means between the spooled blade and the case". No embodiment is found wherein the resilient means are arranged in this way. Resilient means can be found between in the sidewalls of the spooling drums and around the axis for holding the spooling drum. Moreover, the description mentions that the method of claim 21 is advantageously applied to provide resilient means according to the first aspect (which are the embodiments of Figs. 2-6). It is obscure how a method of producing casings is linked to drum sidewalls.

3. It seems that the "resilient means" mentioned in claim 18 (which depends now on claim 1) is different from the "resilient means" used in claim 1. Accordingly, different terms would be necessary to distinguish between these means.
4. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
5. The description is not in line with the amended claims (Rule 5.1(a)(iii) PCT).
6. Contrary to Rule 5.1(a)(ii) PCT, the relevant background art is not cited in the description.

CLAIMS

1. A tape measure having:

a spooled measuring blade mounted via mounting means
5 within a casing, the spooled measuring blade being
rotatable with respect to the case about a rotation axis;
and

resilient means interposed in the mounting means between
the spooled blade and the case, wherein the resilient
10 means permits but urges against displacement of the
spooled blade with respect to the case in a direction
radial to the rotation axis.

2. A tape measure according to claim 1 wherein the
15 spooled blade is rotatable with respect to the resilient
means.

3. A tape measure according to claim 2 wherein the
resilient means is interposed between the casing and an
20 axle element which is fixed with respect to the casing.

4. A tape measure according to claim 2 or claim 3
wherein the resilient member is a bush or cup.

25 5. A tape measure according to claim 1 wherein the
mounting means includes a spooling device and the
resilient means is rotatable with the spooling device
with respect to the casing.

6. A tape measure according to claim 5 wherein the spooling device has a side member which acts to guide the blade during spooling and unspooling, the resilient member being formed in the side member.

7. A tape measure according to claim 5 or claim 6 wherein the spooled blade is located on an outer portion of the spooling device.

8. A tape measure according to claim 7 wherein the resilient member is formed in the spooling device and is located between the outer portion of the spooling device and a bearing surface of the spooling device.

9. A tape measure according to claim 8 wherein the resilient member is a connecting element which connects the outer portion of the spooling device to the bearing surface of the spooling device, the connecting element being shaped so that at least a part has a transverse component of force acting to bend it under a force acting radially between the bearing surface and the outer portion.

10. A tape measure according to claim 9 wherein the resilient member is a series of connecting elements disposed around the bearing surface.

11. A tape measure according to claim 10 wherein the connecting elements form a spiral shape from the outer portion towards the bearing surface or are selected from S-shape, Z-shape, W-shape, V-shape, U-shape, C-shape, L-shape, dog-leg shape, concertina-shape, or combinations thereof.

12. A tape measure according to claim 10 or claim 11 wherein gaps between adjacent spokes/struts are filled with a resilient or shock-absorbing material.

13. A tape measure according to any one of claims 1 to 12 having a spooling device on which the blade is mounted and rigid stop means located to abut against rigid cooperating means on the spooling device on displacement of the spooling device with respect to the case in a direction radial to the rotation axis.

14. A tape measure having a spooled measuring blade mounted via a spooling device within a case, the spooled measuring blade and the spooling device being rotatable with respect to the case about a rotation axis; and rigid stop means located to abut against rigid cooperating means on the spooling device on displacement of the spooling device with respect to the case in a direction radial to the rotation axis.

15. A tape measure according to claim 13 or claim 14 wherein the stop means is located so that displacement of the spooling device with respect to the casing is stopped or urged against at a displacement less than that required to cause failure or damage to an axle element about which the spooling device is rotatable.

16. A tape measure according to any one of claims 13 to 15 wherein the stop means is a step, protrusion or recess formed in the inner surface of a side wall of the casing and the corresponding cooperating means on the spooling device is a step, recess or protrusion, respectively.

17. A tape measure according to claim 16 wherein the stop member is an annular stop ring connected to or formed in the casing and extending adjacent to the spooling device.

18. A tape measure according to any one of claims 1 to 17 having resilient means selectively located at the outer surface of the case, the location or locations of the resilient means being selected according to the vulnerability to impact of the location or locations, the resilient means being formed by moulding-in resilient material into corresponding recesses formed in the casing.

19. A tape measure having a spooled measuring blade mounted within a case, and resilient means selectively located at the outer surface of the case, the location or locations of the resilient means being selected according to the vulnerability to impact of the location or locations, the resilient means being formed by moulding-in resilient material into corresponding recesses formed in the casing.

20. A tape measure according to claim 18 or claim 19 wherein the selected locations are at least one of a tape mouth, a switch and the corners of the case.

21. A method of forming a tape measure having a casing enclosing a spooled measuring blade, the method including the steps of:

moulding a casing section by injection moulding of a first material in a mould tool; and injection moulding a second, resilient material into at least one predetermined location in the mould tool so that the resilient material is moulded into a selected location of the casing section.

22. A method according to claim 21 used to make a tape measure according to any one of claims 1-20.

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